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ABSTRACT

Four experiments were conducted to explore issues in the development and modification of both moral choices and judgments of achievement using concepts and data from a social judgment perspective. In the first experiment, college students functioning at different reasoning levels indicated on a 20-point scale their strength of belief that an individual should or should not engage in a target act in several different dilemmas. For the second experiment, high school freshmen who had just completed a mandatory course in moral decision making were asked to evaluate eight moral dilemmas. For the third experiment, high school freshmen received training in reasoning which used different judgmental tasks to illustrate first simple and then complex integration strategies. For the fourth experiment, high school freshmen and college students were assigned to training, self-cuing, and control groups and asked to predict a person's achievement in either academic or sports performance based on information on that person's ability and effort. The experiments revealed that: (1) college students' higher scores on Defining Issues Tests did not reflect a greater tendency to rely on postconventional rationales or to be more complex; (2) high school freshmen trained in moral reasoning were absolutistic, while untrained students were relativistic; (3) cognitive processes are not unique to moral reasoning, but are general to any sort of social judgment, and probably to nonsocial judgments; and (4) college students are able to transfer skills from a trained rule to the logical extension of a reverse rule because they perceive ability as a fixed trait, while high school freshmen are less likely to transfer skills, in part because they assume ability varies with effort. (SD)

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MORAL REASONING AS A PROCESS OF INFORMATION INTEGRATION

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One of the exciting enterprises in the research profession is to build bridges across domains and paradigms. Applying the concepts and methods of one field to another can sometimes be instructive for both the donor and recipient domains. The donor, though, must be mindful of the issues and questions of the recipient domain so that there is an audience for the cross-application. The utility of using one field to illuminate the problems of another is directly related to the meaningfulness of the issues from the latter field that are addressed. I believe that concepts and methods from the social psychological study of social judgment hold promise for resolving questions regarding the development of moral and other social reasoning. Specifically, I will present concepts and data from a social judgment perspective that bear on issues in the development and modification of both moral choice and judgments of achievement.

Let us first look at what I see as major questions raised by developmentalists in moral choice. This paradigm, popularized by Kohlberg and others, involves the presentation of moral dilemmas in which subjects must choose between alternative actions in a

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Notes for a presentation at the First Invitational Conference on Social and Personality Development, Nags Head NC, June 1988. These are skeletal; [illegible] may wish to refer to Kaplan, M. F. (1988) Information integration in moral reasoning: Conceptual and methodological implications, in N. Eisenberg et. al. (Eds.) Social and Moral Values: Individual and Societal Perspectives, Hillsdale, NJ, L. Erlbaum for elaboration, citations, and justification.

scenario. Both alternatives have a series of rationales based on moral considerations; one's level of moral reasoning is indexed by the rationale(s) selected for the preferred alternative. The rationales, either spontaneously given in interview or selected from a menu provided with the scenario, are graded according to reasoning maturity level. Within this paradigm, and implied from related paradigms (e.g., moral judgment and distributive justice), several issues seem to be central.

First; does moral reasoning level lie in the "moral value" of the chosen alternative, or in the maturity level of the rationale for choice that is cited by the subject? The consensus seems to be the latter. That is, it is the reasoning behind the choice that indexes hierarchical developmental stage. Preconventional reasoning emphasizes external rewards and punishments as rationales for choices. Conventional reasoning refers to acceptance of rules and expectations of significant others, and Postconventional reasoning is based on internalized principles of ethical behavior or abstract conceptions of justice.

Second, is reasoning level hierarchical, i.e., do people progress with age to higher level stages? There is considerable controversy here as to whether Kohlberg's stages correctly represent an ordering in terms of maturity for all people (e.g., Gilligan), and whether one may function simultaneously at several stages or even retrogress once a stage is reached. Related to these matters is whether stages are discrete or continuous. Is one conventional to one degree, and postconventional to another, or is reasoning a typology?

Third, do people progress developmentally from simple to more complex reasoning processes? Piaget's work in cognition and problem solving suggests the progression from consideration of choice components singly and as universal absolutes (moral realism or heteronomous morality) to relativistic reasoning (autonomous morality) where importance of a particular element depends on the configuration of other elements. In short, several sources have posed a hierarchical progression toward more complex or contextual relationships between inputs.

Tests of these questions have not always been empirical, but have bordered on the philosophical. And, conceptual and methodological problems have clouded empirical tests of the issue. Some examples include:

1. The crucial distinction between values and reasoning is muddied by the fact that choices in dilemmas (values) are confounded with rationales. Moreover, some choices are naturally associated with higher level rationales. Clearer operationalization of value and reasoning are needed.
2. Present techniques and concepts do not easily allow for reasoning progression in degrees (continuous) but see transition from one stage to another as all or none (discrete). Dichotomous choice or scoring of rationales loses the subtleties of degrees or mixtures of rationale usage. Thus, one cannot uncover configural usage nor test for progressions in complexity.
3. Concern for reasoning centers only on the predominant reason for a choice, and ignores the patterning or potential complexity of usage.

4. Reasoning is assessed by retrospective reports of considerations, which may be innacurate due to social desirability, rationalization, fluency level, and ignorance of one's thought process. People cannot accurately reconstruct their reasoning processes.

In sum, I identify four core issues that require more careful conceptualization and methods than presently used:

1. Do progressions lie chiefly in values or reasoning?
2. Is progression continuous or in discrete stages?
3. Does progression proceed from greater use of preconventional, to conventional, to postconventional rationales?
4. Does reasoning progress from simple to more complex forms of rationale usage?

Information integration theory is based on a clear distinction between vales and reasoning.

[At this point, a description of the value, weight, and integration strategy concepts, and how they relate to values, reasoning, and complexity in the above issues in the development of moral reasoning, and how they resolve the problems. Omitted here due to time and laziness.]

Empirical Work

This work does not rely on retrospective reports, but observes the choices made when different rationales are present or absent in a situation and infers the relative use and patterning of reasoning elements from the strength and pattern of choice made in the presence or absence of different elements. Also, presence or absence of rationales of different levels is factorially

varied. This permits assessment of the locus of developmental progressions. If values, there will be differences in the choices; if rationales, in the main effects for rationale level. Complexity would be reflected in interactions between rationales. Finally, this procedure allows different degrees of rationale usage to emerge, and does not assume a discrete stage structure. Older children, e.g., may use a certain type of rationale more than younger.

Three expectations were studied in the experiments. First, persons located at different reasoning levels would not differ in their choices. Second, they would differ in the weight assigned to different information (rationale) components. Third, higher level persons would show a more complex integration strategy. A similar set of expectations applied when studying the effects of intervention techniques aimed at advancing moral reasoning level (moral education). Trained people should not differ from untrained in their choices, but should put more weight on postconventional and less on preconventional rationales than untrained persons. They should also show more complex integration rules. Three experiments dealt directly with the moral choice paradigm, and the fourth studied the training of complexity in a nonmoral, social judgment task.

Experiment 1.

College students functioning either at the preconventional, conventional, or postconventional level according to the Rest Defining Issues Test indicated on a 20 point scale their strength of belief that an individual should or should not engage in a target act (e.g., "steal the drug") in several different dilemmas.

These were modifications of those commonly used in assessing reasoning level (but not used in the assessment of these subjects). In each dilemma, PR, CO, and PO rationales were given in the form of potential outcomes. Each rationale was given a likelihood of occurance, in the form of: "there is a (high, 50/50, low) chance that...". For example, "there is a 50/50 chance that family and friends will believe that Heinz was doing his duty as a husband in stealing the drug" gives a medium value, conventional rationale <u>for</u> stealing the drug. There were 27 such dilemmas, constructed from a factorial design with three likelihood levels for the three rationale types. Pretesting disclosed that in each basic scenario (e.g., Heinz), one of the outcomes was normatively considered more moral than the other (e.g., steal > don't steal the drug). Responses were scored so that a higher score reflected stronger preference for the normatively more moral outcome.

Figure 1 plots the ratings of the three subject groups for each pairwise comparison of rationales. Three conclusions are noteworthy. First, for all Ss, PO rationales were weighted most, as shown by the greater slope of the curves in panel C. Second, there was no tendency for any S group to be more influenced than other groups by rationales appropriate to its assessed reasoning level. For example, CO Ss do not show a greater slope for variations in CO rationales than do other groups (panel B). Statistically, there were no group by likelihood level interactions for any of the rationales. Third, groups did not differ in the complexity of rationale integration; patterns of combination of of pairs of rationales were similar for all groups,

and the groups by rationales by likelihood levels interaction was nonsignificant. So, groups were similar in how they reacted to different combinations and contexts of rationales and their likelihood of occurance. Contrary to developmental notions, the groups did not differ in weight assigned to any given rationale when they chose a particular action. Nor did they differ in the complexity of integration of rationales. But they differed in one important way: Students at higher reasoning levels had higher scores on the choices, as shown in the relative height of the curves in all panels (note that PU Ss had the highest curves). So, higher scores on the DIT do not reflect a greater tendency to rely on postconventional rationales, or to be more complex, but instead predict a tendency to chose moralistic outcomes more strongly, a difference in value, not in reasoning. The DIT may confuse values and reasoning.

Experiment 2.

Attempts at moral education in the classroom purport to advance reasoning level without inculcating vales. If this is so, typical training should affect relative weight of rationale elements and complexity of integration, but not values, or strength of choice. Eight moral dilemmas were constructed from the scenarios used in the DIT and in standard Kohlbergian interviews. Scenarios were slightly revised to accomodate a 6th grade reading level. For each scenario, eight variations were devised varying the likelihood that a PR, CO, or PO consequence would occur if one of the actions would be chosen. In any scenario, there was reported either a high or low likelihood that each type of rationale (all three were given) would occur. These

considerations were worded so that in half the scenarios a high chance of occurance would argue for the less normatively preferred action, and in the remaining half, a high chance would favor the more normatively preferred action. In this manner, each scenario was the basis for a 2^3 design of high and low likelihood of PR, CO, and PO considerations. Eight sets of booklets were arranged by cyclical permutation so that each booklet contained a complete design of the eight combinations of PR, CO and PO considerations, one combination to each scenario. Across the eigth booklets, each basic scenario was ultimately paired with each rationale possibility. In short, combinations of PR, CO, and PO likelihoods were balanced across the eight scenarios.

Subjects were 128 freshmen in an Illinois High School. Half were tested immediately after completing a mandatory training course in moral decision making, patterned after the training devised by the Kohlbergians. Half were tested prior to taking the course. Sexes were equally distributed within the two groups. The course consisted of a one week series of daily sessions in which decision making in value oriented situations were discussed with the goal of thinking about the components and processes in such decisions.

Each booklet was evaluated by 8 students each from the trained and control groups. Order of scenarios within each booklet was randomized. Students indicated hoiw strongly they felt the character should engage in the alternate acts on a 20 point scale (e.g., "Should not steal the drug (1)....Should steal the drug (20)"). Once again, pretesting found that in each scenario,

one action outcome was morally preferred over another. On a 20 point scale, the degree of preference ranged from 12.55 to 14.47 (M = 13.33). So, half the scales provided the morally preferred alternative on the left, and half on the right. Further care was taken to balance scale position of the alternative given under (1) or (20) with affirmative or negative wording. By reversing the score of half the responses, higher scores reflected more moralistic (normatively preferred) choices.

Figure 2 plots pairwise comparisons of rationales. The left panel, for example, plots preferences for the target action given high or low likelihoods of conventional rationales (ordinate) paired with high or low preconventional likelihoods (abscissa), collapsing over postconventional levels. Trained students differed from controls in two ways: They responded more strongly in the direction of the moralistic choice (higher scores in all panels and a main statistical effect for training), and showed less configuration in considering rationales (lack of statistical and graphical interaction in the curves for trained students, and all three possible interactions for controls). There were no group differences in the effect of any of the rationales, that is, the groups responded similarly to each of the three rationale types (no groups by likelihood interaction for any of the rationales).

Trained students were not more influenced by PO rationales, and were not less influenced by PR rationales, than controls. But they were less contextual in reasoning, and more moralistic in values! These findings reverse claims for moral education. Training did not advance the use of more "mature" rationales, nor

did it instill a more complex way of reasoning. In fact, while trained students were absolutistic in their reasoning, students unhampered by training were relativistic. Training led to retrogression in reasoning. It also inculcated values, in the sense of strengthing the normatively moral choices.

There are implications here for moral training programs that are beyond the scope of this paper, but the point should be made that programs purporting to separate the training of values and reasoning ought to evaluate via the systematic means employed here what they are accomplishing. At the same time, a means of separating values and reasoning during training is needed, and could be modelled after the procedures used in this experiment. The third experiment is such an attempt.

Experiment 3.

Students in two sections (N = 64) of a H. S. freshman speech course comprised the training group, and a similar number of students in other sections were controls. Training consisted of four one-hour sessions of reasoning training on consecutive days. In each session, a different judgmental task was used for illustrating first simple and then complex integration strategies. Tasks were nonmoral in nature, and included: (1) deciding how likely one would be to help a student by serving in an experiment, (2) Judging guilt of a student accused of cheating, (3) Assigning a sentance to a defendant convicted of car theft, and (4) attributing suspiciousness in a murder case. All had been previously found in research to yield nonconfigural averaging by Ss. In each session, students first made their judgments, and

the experimenter then described how students often use a simple integration rule to combine the two elements in the task. She went /tton to describe and illustrate more complex integration, guiding discussion toward configural solutions by using an Analysis of Variance model. After the classes seemed to understand the principle, they retook the task.

On the fifth day, students completed the eight moral dilemmas without discussion. Controls responded to the four prior tasks without discussion (again, on consecutive days) and to the moral dilemma task on the fifth day.

The training of complex integration transferred to reasoning in the moral dilemmas. Figure 3 shows the pairwise comparisons between rationales. All three panels (comparisons) show statistical and graphical divergence for trained students; a high likelihood of any one rationale being present increased the impact of other rationales. For example, if there is a high likelihood that peers will approve the more moral act (right panel), than likelihood of a principled rationale matters more. In two of the three pairwise comparisons for controls, no divergence was found.

Unlike the standard program in Experiment 1, trained students did not uniformly choose the more moral alternatives. Thus, the Analysis of Variance analogue training did not induce values, but did modify integrative reasoning.

One of the main ideas here is that cognitive processes are not unique to moral reasoning, but are general for any sort of social judgment, and probably apply to nonsocial judgments as well (e.g., mathematical tasks). One instance of such structural

parallelism is the finding that complex reasoning training in social judgment tasks transferred to moral dilemma choices. The next experiment used the same techniques to train complexity in a nonmoral task that has recieved considerable attention in the cognitive development literature.

Experiment 4.

Classical theory and empirical research show Ss'predictions of achievement to be a joint function of the target's ability and effort. The cognitive rules by which the two are combined are a matter of question. Though theory suggests a multiplicative rule, research most often favors averaging. Use of the simpler strategy of averaging versus the more complex multiplicative may be a matter of cognitive development. Another question arises concerning the reversibility of rules. If a certain rule is used in a given task (e.g., Achievement = Ability X Effort), one should be able to reverse the rule given the reverse inference that must be drawn (e.g., Ability = Performance/Effort). There is reason to believe that ability to reverse rules is also developmentally related.

High school freshmen and College students were assigned to one of three groups: Training, self-cuing, and control. In the first session, all were given information about a target person's above or below average ability and above or below average effort in either academic or sports performance, and asked to predict achievement (thus, a 2 X 2 design of input). Training Ss were led in a discussion designed to increase multiplicative consideration of ability and effort, using the ANOVA row X column factorial

design analogue. Controls were led in extraneous discussion, and self-cuers were asked to write explanations of the rules they had used. The same process was repeated in a session on the second day, but with the scenario (academics or sports) reversed. On the third day, all Ss judged targets on all three dimensions, given information (above or below average) about the remaining two dimensions for each judgment. They were also asked for their assumptions about the relationship between effort and ability given variations in each for the same constant achievement.

Figure 4 shows the achievement predictions for the different age and treatment groups when given different levels of ability and effort. Only college students who were trained used multiplication in combining cues; High school students did not benefit from training, and no Ss spontaneously multiplied as a group. Multiplication is shown by significant divergence of row X column curves.

Turning to judgments of ability (Figure 5), college students who were trained to multiply showed reversibility, that is, they divided (converging, downward sloping curves) when judging ability from achievement and effort. No other age or treatment group divided (parallel curves). Similar observations may be made for the judgments of effort from acheivement and ability information (Figure 6). Looking within treatment groups at those Ss who had used a multiplicative rule when judging achievement, only the college students spontaneously reversed the rule. High school students who had multiplied did not show the inverse relationship between achievement and effort required by dividing; in fact, they assumed a direct relationship. In short, high school students

were unable to adopt a reversible causal schema for multiplication even when trained.

On the basis of self-reported assumptions about whether ability is fixed or grows with increased effort, we concluded that (1) the older group conceives of ability as a fixed trait, and this facilitates transfer from a trained rule to the logical extension of a reverse rule, and (2) adolescents are less able to benefit from training in complex rules, and less likely to transfer skills because they either assume ability varies with effort, or if they do not make this assumption, are unable to put their belief about ability into use.

Concluding Comments.

The general point of all this is that one may clearly investigate central issues in both moral and cognitive development by adopting a common and unifying conceptual framework that focuses on the values, weights, and integration strategies for component information, and by using methodology that follows from this framework. Further examples could be given in the paradigms of distributive justice and moral judgment of acts, but enough is enough for now.